

XXVIII.—A new Tuberculate Terrestrial Isopod from New Zealand. By CHAS. CHILTON, M.A., D.Sc., M.B., C.M., LL.D., C.M.Z.S., Professor of Biology, Canterbury College, New Zealand.

[Plate XIII.]

IN 1915* I described a tuberculate species of *Cubaris* from New Zealand under the name *C. suteri*. Of this species I had only the one specimen, and I stated that of a second tuberculate species, *C. hamiltoni*, only a single specimen was known, these facts showing that our knowledge of the terrestrial Isopoda of New Zealand was still very incomplete. I suggested also that a careful survey, especially in the forests of the North Island, might bring to light other interesting species. This has already proved to be the case, and I have recently received from Mr. David Miller, of the New Zealand Agricultural Department, several specimens of another tuberculate *Cubaris* found under the bark of fallen logs in the bush at Levin, Wellington. Of this species Mr. Miller was fortunate enough to find eight specimens. In general appearance, colour, markings, etc., they are very similar to *Cubaris suteri*, and I at first thought that they might perhaps be specimens of this species with the tubercles on the dorsal surface better developed than in the type-specimen. This, however, proves not to be the case, as the tubercles, or, rather, ridges, are arranged differently, and I am therefore describing the specimens as a new species, which I have much pleasure in naming after their discoverer.

Cubaris milleri, sp. n. (Pl. XIII. figs. 1-6.)

Specific description.—Oblong-oval, breadth about half the length. Epimeral portions fairly well developed, especially in the first segment of the peræon; central portion of each segment very convex and marked off from the lateral portions by a longitudinal ridge or flange on each segment (figs. 1 & 2). Head with the anterior margin produced upwards into a well-defined ridge projecting slightly above the dorsal surface and having the upper margin regularly convex and without any notch; the posterior surface of the head is produced dorsally into a distinct transverse flange rising high above the general surface and showing in front view much higher than the

* Journ. Linn. Soc. vol. xxxii. p. 425, pl. xxxvii. figs. 24-28.

anterior margin; the flange has a slight depression in the centre, so that its upper margin is concave (fig. 3). Each segment of the peræon bears a pair of longitudinal tubercles or ridges, which are low anteriorly but become higher towards the posterior part of the segment; these ridges increase in size and distinctness on the posterior segments until, in the seventh segment, the ridge is much higher than the segment itself and projects backwards over the pleon. In dorsal view these ridges form an almost continuous row, separating the central part of the body from the lateral portions. In each segment there are a few small tubercles or irregularities both on the lateral portions below the ridge and also on the central part between the ridges. Inferior margin of first segment of peræon deeply cleft posteriorly, the cleft extending nearly halfway along the whole margin; inferior margin of the second segment with a distinct tubercle on its inner surface enclosing a wide notch for the reception of the succeeding segment when the animal is rolled up into a ball (fig. 4). The pleon bears no ridges and shows the usual characters; the posterior segment has the hind margin either straight or very slightly concave (fig. 5).

Antennæ (fig. 3) of normal shape, the second and third segments of peduncle subequal, the fourth a little longer and the fifth nearly twice as long as the fourth; flagellum a little shorter than the fifth joint of peduncle, its first joint about one-third the length of the terminal joint.

The mouth-parts show the usual structure common to the genus, and do not appear to present any distinctive characters.

The legs are all short and of the usual form. In the single male dissected the anterior pairs do not show any special modification; but as the specimen is small and the legs imperfect the evidence on this point is not quite conclusive.

The pleopoda of the male do not appear to differ in any important points from those of other species of the genus.

The uropoda (figs. 5 & 6) have the endopod very short, almost knob-shaped, extending only a short distance from the base; its extremity bears two or three minute setæ. The exopod is also very small, reaching only about halfway from its attachment to the posterior end of the peduncle; it bears a rather long seta, which reaches nearly as far posteriorly as the peduncle.

Under a high power the whole integument shows minute scale-like markings.

Colour. Pale reddish brown, with marblings of a darker brown.

Length of largest specimen about 7 mm.

Loc. Under the bark of fallen logs in the bush, Levin, Wellington, N.Z.

This species appears to be closely related to *Cubaris suteri*, Chilton, the structure of the lateral margin of the first and second segments of the peræon and of the uropoda being closely similar in the two species. In *C. suteri*, however, the ridges are transverse and mainly confined to the posterior border of the peræon segments, while in the present species the ridges are longitudinal, extending along nearly the whole of the length of each segment, and they are much better developed and consequently more prominent. Another tuberculate species, *C. hamiltoni* (Chilton) †, probably also comes near to these two species; but the dorsal surface is much more profusely supplied with flanges or ridges and with pointed tubercles. *C. hamiltoni* is known only from the single type-specimen which was obtained in the neighbourhood of Petane, near Napier, in New Zealand, and this specimen is unfortunately somewhat imperfect, so that our knowledge of the species is far from complete. The only other tuberculate species known from New Zealand is *C. macmahoni* (Chilton), originally described from Kenepuru in Marlborough, though I have since had specimens sent to me from one or two localities in the North Island. *C. spinosus* (Dana) is a spiny species, "the body bristled throughout with subacute spines"; but it is only known from Dana's brief description and figures, no specimen having been since collected. It was found by Dana near the Bay of Islands.

I am much indebted to my assistant, Miss E. M. Herriott, M.A., for preparing the drawings to illustrate this paper.

EXPLANATION OF PLATE XIII.

(All the figures refer to *Cubaris milleri*, sp. n.)

Fig. 1. Dorsal view of whole animal.

Fig. 2. Side view of animal (antennæ and legs not shown).

Fig. 3. Front view of head with antennæ etc., the flange arising from the posterior border of the head showing behind the anterior margin.

Fig. 4. Lateral margins of peræon segments 1, 2, and 3, from below.

Fig. 5. Terminal portion of pleon, from above.

Fig. 6. Uropoda and terminal segment, from below.

* See Trans. Linn. Soc., Zool. vol. viii. pp. 99-152, pls. xi.-xvi., and Trans. N.Z. Inst. vol. xlii. pp. 286-291.